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Attachment I to
[]-3328-53

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OX CART STATUS REPORT

1. Since the first flight of an OXCART A-12 aircraft, 26 April 1962, 361 flights, totaling 506:49 flight hours, have been made utilizing a total of seven aircraft at the test site in Nevada as listed on Attachment II. Of these totals, 92 flights totaling 103:29 hours were conducted with aircraft having two J-58 engines installed. The J-58 is the engine necessary for Mach number extension. The only aircraft not now using the J-58 engine is the dual-place trainer and it will eventually be retrofitted with J-58 engines. J-58 engine development status is shown on Attachment III.

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2. Six A-12 aircraft (accounting for the loss of #123) currently are in flight test. On 10 July 1963 the eighth aircraft was delivered to [] and on 29 August 1963 the ninth aircraft was delivered. Both of these aircraft are in varying stages of final assembly. Attachment IV contains an estimated delivery schedule for the remaining six A-12 aircraft under procurement.

3. To date the longest A-12 flight has been 3:06 hours, the highest speed achieved has been Mach 3.06, and the highest altitude has been 75,800 feet.

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4. The aircraft, engines, and other critical components, including the inertial navigation system, stability augmentation system, autopilot, air induction system, pilot environment equipment, cameras and [] all specifically developed for the program, have performed reasonably well within the limits of testing so far in the flight test program. One of the most critical problems confronting the program is the occurrence of duct roughness which has been most severe in the Mach 2.4 - 2.8 region. Modifications have been made to a flight test aircraft which, in some instances, have reduced the severity of the roughness, but a complete identification of the source of the roughness is still not known and further tests and modifications are underway.

5. Foreign object damage which has resulted in 20 J-58 engine removals and extensive aircraft nacelle modification suspended all Mach number extension flights between 5 April and 17 May 1963. Corrective measures have been taken and no further removals have occurred.

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6. One isolated instance of an engine bearing failure has occurred and corrective action has been taken such that no further similar failures have occurred. Also insufficient clearance between the compressor blades and the honeycomb shroud around the blades coupled with rapid aircraft decelerations has resulted in damage to several engines. Modifications to the engines are now underway to correct this defect.

7. Failure of one pair of Narmco plastic fins was experienced during flight No. 7 or aircraft No. 127 on 10 September 1963. Lockheed/Narmco investigation of this failure is underway.

8. Aircraft #123 crashed on 24 May 1963. After intensive investigation by an accident board, it was concluded that the accident resulted from icing in the pitot tube which gave erroneous instrument readings to the pilot and led to a series of events culminating in a crash. The pilot ejected successfully. A new model pitot tube will be installed to prevent a recurrence.

25X1 9. Flight testing of the A-12 is now being conducted to verify the radar cross-section. In addition to continuing efforts to reduce the cross-section of the A-12 through the application of certain materials used in the fabrication process, two specific projects, KEMPSTER and [] are underway to further enhance these efforts. KEMPSTER A and KEMPSTER B utilize different devices on the A-12 which will generate an electron cloud that can absorb radar frequencies. Flight testing of KEMPSTER A prototype is being scheduled in the near future. Strong emphasis is made on weight reduction of such equipments. [] a project looking to the development of a device which will [] 25X1

25X1 [] is currently being restudied. A decision will be made in the near future whether or not to continue the [] approach. A number of studies and projects are now underway in conjunction with the Office of Scientific Intelligence looking to the development of a complete analysis of the Soviet defensive system in order to provide the best possible operational security of future reconnaissance vehicles.

25X1 10. The three A-12 camera systems, consisting of two entirely new cameras and a modified camera for the U-2 program are all in flight test. There have been a total of 46 flights with cameras operating and results of these tests have been generally encouraging.

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11. In the next few months maximum effort will be directed to solving the duct roughness problem and then reaching the intended speed and altitude so that the aircraft related systems, equipment and sensors can be checked under the high temperature and high altitude environment. Meanwhile seven of eventual nine operational pilots soloed in the A-12 and are undergoing training. Bases for aerial refueling tankers are being readied and other logistical and operational preparations are underway.

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AIRCRAFT FLIGHT TEST SUMMARY

The following is a recapitulation of flight test activity since the first flight in April 1962.

Aircraft 121 - 81 flights (total time-82:00 hours) 36 flights were with J-75 engines; 18 flights were with one J-75 engine and one J-58 engine. First flight with two J-58 engines occurred on 9 March 1963.

Aircraft 122 - 24 flights (total time-20:49 hours) with two J-58 engines.

Aircraft 123 - Crashed on 24 May 1963 after 79 flights (total time-136:10 hours) with two J-75 engines.

Aircraft 124 - (dual-seat trainer) - 137 flights (total time-209:32 hours) with two J-75 engines.

Aircraft 125 - 14 flights (total time-17:52 hours) with two J-58 engines.

Aircraft 126 - 19 flights (total time-31:44 hours) with two J-58 engines.

Aircraft 127 - 7 flights (total time-8:42 hours) with two J-58 engines.

Aircraft 128 - In final assembly at the operating location.

Aircraft 129 - In initial assembly at the operating location.

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J-58 ENGINE DEVELOPMENT SUMMARY

Total J-58 ground test hours	9461 hours
JT11D-20 engine ground test hours	6545 hours
Engine ground test hours above Mach 2	1470 hours
Engine ground test hours at or above Mach 3	976 hours

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A-12 AIRCRAFT DELIVERY STATUS

<u>Aircraft</u>		<u>Delivery to test site</u>
121-129	OX CART	Now at site
130	OX CART	September 30
131	<div style="border: 1px solid black; width: 100%; height: 150px;"></div>	November 12
132		December 17
133		January 15
134		February 4
135		March 17

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